

Radiologic Examination MCQ Question Answer

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Question: 1. Using CT, which solid kidney mass is like a bulge of the renal contour characterized by normal corticomedullary patterns?

- Option A. prominent columns of Bertin
- Option B. xanthogranulomatous pyelonephritis
- Option C. lymphoma
- Option D. renal infarction

Question: 2. Which structure can NOT be assessed by TRUS of the prostate?

- Option A. ejaculatory duct
- Option B. vas deferens
- Option C. seminal vesicles
- Option D. rectal wall

Question: 3. What is the signal characteristic of renal stones on MRU?

- Option A. high signal on T1-weighted images
- Option B. high signal on T2-weighted images
- Option C. low signal on T1-weighted images
- Option D. none of the above

Question: 4. By ultrasonography, when kidneys appear darker than the liver, they are:

- Option A. hypoechoic
- Option B. hyperechoic
- Option C. anechoic
- Option D. isoechoic

Question: 5. What is correct concerning sound waves?

- Option A. The higher the frequency, the deeper tissue penetration
- Option B. The higher the frequency, the better the axial resolution
- Option C. low-frequency transducers are of 6 to 10 MHz
- Option D. the deeper tissue penetration, the better axial resolution

Question: 6. Which statement is false concerning complications of left renal artery embolization?

- Option A. embolizing the non-target artery might occur
- Option B. severe pain at the renal area could occur
- Option C. complications depend on the embolic agent
- Option D. reactive left pulmonary edema

Question: 7. What is the emergency treatment of intravenous contrast allergy?

- Option A. epinephrine
- Option B. atropine
- Option C. hydrocortisone
- Option D. antihistamine

Question: 8. What is (are) the indication(s) of renal artery embolization?

- Option A. bleeding angiomyolipomas
- Option B. an alternative to nephrectomy in severe uncontrolled hypertension among patients with end-stage renal disease
- Option C. renal artery aneurysms or symptomatic AV malformations
- Option D. all of the above

Question: 9. Which statement is false regarding magnetic resonance urography (MRU)?

- Option A. small non-obstructive calculi might be missed at MRU performed for the evaluation of hematuria
- Option B. in pediatrics, performing a dynamic contrast-enhanced imaging helps in evaluating crossing vessels in the setting of UPJ obstruction
- Option C. the success of static-fluid MR urography depends on the presence of fluid within the urinary system regardless of renal function
- Option D. MRU at 3T, carries the risk of nephrogenic systemic fibrosis

Question: 10. On staging left kidney RCC using enhanced CT, the radiologist must look for:

- Option A. extension of the tumor to the diaphragm
- Option B. extension of the tumor to the right atrium
- Option C. the density of calcifications
- Option D. the amount and bilaterality of cysts formation

Question: 11. To which class of Bosniak system of renal cysts does an oval renal parenchymal cyst of uniform water density filling, with attenuation of ≤ 20 HU, thin, non-calcified wall, and no contrast enhancement; belong to?

- Option A. class 1
- Option B. class 2
- Option C. class 3
- Option D. class 4

Question: 12. Which of the following is an indication of VCUG?

- Option A. repeated febrile UTI in children
- Option B. evaluating a probable posterior urethral valve
- Option C. a & b
- Option D. none of the above

Question: 13. What is true concerning Tc-99m DTPA?

- Option A. Its uptake by glomerular filtration is almost 100%

Option B. It helps evaluate cortical structure and morphology

Option C. It provides a static picture of kidneys when compared to MAG3

Option D. it binds to the sulfhydryl groups in proximal tubules resulting in much higher resolution pinhole SPECT imaging

Question: 14. On clinical examination, what accidental finding has NO connection to renal cancer?

Option A. unilateral hydrocele

Option B. bilateral varicocele

Option C. calcifications at the renal area on plain KUB film

Option D. painless hematuria

Question: 15. Which of the following is false concerning retrograde urethrogram?

Option A. coning at the bulbar urethra is normal

Option B. segmental narrowing at bulbar urethra is normal

Option C. multiple round filling defects could be air bubbles

Option D. indicated in urethral trauma cases

Question: 16. What nuclear medicine study can diagnose interstitial nephritis?

Option A. DTPA

Option B. DMSA

Option C. gallium-67

Option D. MAG-3

Question: 17. Ultrasonic 3.5 MHz curved array probe is suitable to detect:

Option A. epididymal cysts

Option B. testicular tumors

Option C. renal stones

Option D. penile vasculature

Question: 18. Which condition tops the differential diagnoses list of CT picture of Xanthogranulomatous pyelonephritis?

Option A. renal tuberculosis

Option B. renal abscess

Option C. renal cell carcinoma

Option D. angiomyolipoma

Question: 19. Which of the following is NOT an indication of retrograde pyelography?

Option A. evaluation of probable ureteral obstruction

Option B. in conjunction with ureteroscopy

Option C. evaluation of hematuria

Option D. evaluation of probable ureterovesical reflux

Question: 20. What is (are) the characteristic finding(s) of testicular torsion on color Doppler

ultrasonography?

- Option A. the classic blue dot sign
- Option B. thick, short, edematous spermatic cord
- Option C. absence of intratesticular blood flow
- Option D. increased epididymal blood flow

Question: 21. Using ultrasonography, which testicular lesion is of low reflectivity with irregular borders, hypervascular rims but no internal vascularity to mention?

- Option A. intratesticular hematoma
- Option B. testicular abscess
- Option C. orchitis
- Option D. sex cord stromal tumors

Question: 22. Using ultrasonography, which testicular lesion is cystic with heterogeneous echoes representing a mixture of mucinous and/or sebaceous material with or without hair follicles, cartilages, and bones?

- Option A. non-seminomatous germ cell tumors
- Option B. acute bleed on top of old hematoma
- Option C. mature teratoma
- Option D. sex cord stromal tumors

Question: 23. What imaging modality is superior in detecting undescended testis in the abdomen?

- Option A. MRI
- Option B. CT
- Option C. ultrasound
- Option D. all are comparable

Question: 24. Which statement is false concerning plain KUB film?

- Option A. reliable tool to exclude urinary calculi
- Option B. calcifications at renal area might lead to the discovery of renal cancers
- Option C. can detect soft tissues
- Option D. fecoliths and phleboliths could be mistaken for calculi

Question: 25. Regarding acute renal infections, what is the least diagnostic radionuclide study for detecting an inflammatory focus?

- Option A. hippuran I-131
- Option B. technetium-99m
- Option C. gallium-67
- Option D. indium-111labelled WBC

Question: 26. In routine practice, when do urologists request plain skull X-ray?

- Option A. advanced prostatic cancer
- Option B. central diabetes insipidus

Option C. pituitary adenoma

Option D. a & c

Question: 27. How does fluid appear on T2-weighted MR images?

Option A. dark

Option B. intermediate

Option C. bright

Option D. none of the above

Question: 28. What matter does correspond to zero Hounsfield units?

Option A. air

Option B. water

Option C. fat

Option D. bone

Question: 29. Which statement is true concerning renal ultrasonography?

Option A. end-stage renal failure kidneys look small and hypoechoic

Option B. it is more accurate on diagnosing cystic lesions than solid masses

Option C. it is able to detect tumors as small as 2 mm

Option D. cortical carbuncle might be mistaken for hydronephrosis

Question: 30. Using CT scanning, which solid kidney mass is sharply demarcated with uniform enhancement and often has a central scar?

Option A. RCC

Option B. metastases

Option C. angiomyolipoma

Option D. oncocytoma

Answer Sheet

1	A	the description typically fits prominent columns of Bertin (Dromedary hump).
2	B	self-explanatory.
3	D	renal stones and calcifications have no signal characteristics. Therefore, they appear as a signal void.
4	A	by convention, the liver is used as a benchmark for echogenicity; darker structures are hypoechoic.
5	B	the higher the frequency, the better the axial resolution, when the deeper structures are examined and vice versa.
6	D	reactive left pulmonary edema is not a recognized complication of RAE.
7	A	intravenous 1 ml of epinephrine 1:10000 administered slowly.
8	D	self-explanatory.

9	D	gadolinium administration has been linked to nephrogenic systemic fibrosis, but not MRU at 3T.
10	B	RCC can invade the perinephric fat beyond the renal fascia and can extend into the renal vein, inferior vena cava and right atrium; and/or the adjacent adrenal gland.
11	A	the description meets class 1, with no surrounding masses and carries no risk of malignancy.
12	C	vesicoureteral reflux should be excluded in repeated febrile UTI in children.
13	A	apart from a, all options describe DMSA.
14	A	testicular hydroceles have nothing to do with renal cancers. Blocking the IVC by tumor thrombi could result in bilateral varicocele.
15	B	ring or segmental narrowing at bulbar urethra is a sign of urethral stricture.
16	C	the infection seeking nuclear study is Gallium 67 scintigraphy.
17	C	the frequency of ultrasonic waves relates inversely to the depth of the structures under examination. Therefore, deep structures like kidneys require 3.5 MHz probe while superficial organs like epididymis, testis, and penis require 7.5 MHz probe.
18	A	the normal renal outline is lost. Typically, it is enlarged with a paradoxical contracted renal pelvis. The calyces, in contrast, are distorted with discrete hydrocalycosis.
19	D	ureterovesical reflux is better evaluated by voiding cystometrogram.
20	C	the diagnostic ultrasonic finding is the absence of intratesticular blood flow.
21	B	the description typically fits testicular abscess.
22	C	the description typically fits testicular mature teratoma.
23	A	MRI is superior in detecting soft tissue masses than others.
24	A	a considerable percentage of urinary calculi can't be detected on plain KUB.
25	D	indium-111labelled WBC studies have limited efficacy in establishing an inflammatory focus.
26	D	skull secondaries from metastatic prostate cancer; and widened sella turcica due to pituitary adenoma rationalize requesting plain skull x-ray by urologists.
27	C	bright. fluid exhibits high signal on T2-weighted images and a low signal on T1-weighted images.
28	B	water corresponds to zero Hounsfield units.
29	B	solid masses are best diagnosed by CT, while renal cysts are adequately diagnosed by u/s.
30	D	the description typically fits oncocytoma.